

United States Patent [19]

Becker et al.

5,814,094 **Patent Number:** [11]

Date of Patent: Sep. 29, 1998 [45]

[54] IONTOPHERETIC SYSTEM FOR STIMULATION OF TISSUE HEALING AND REGENERATION

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)46	3.04	623	No.:	Appl.	[21]	
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[22]	Filed:	Mar.	28	1006
122	rnea:	war.	40.	1990

[51]	Int. Cl.°	 A61M	5/32
[52]	U.S. Cl.	 607/50; 60	04/20

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ABSTRACT

An iontophoretic system for promoting tissue healing processes and inducing regeneration. The system includes a device and a method, a composition, and methods for making the composition in vitro and in vivo. The system is implemented by placing a flexible, silver-containing anode in contact with the wound, placing a cathode on intact skin near the anode, and applying a wound-specific DC voltage between the anode and the cathode. Electrically-generated silver ions from the anode penetrate into the adjacent tissues and undergo a sequence of reactions leading to formation of a silver-collagen complex. This complex acts as a biological inducer to cause the formation in vivo of an adequate blastema to support regeneration.

42 Claims, 11 Drawing Sheets (7 of 11 Drawing Sheet(s) Filed in Color)

